CSIT114/814 Task 5: The BookExchange System (7 marks)

BookExchange is a type of e-business exchange that does business entirely on the Internet. The company acts as a clearinghouse for buyers and sellers of used books.

In order to be a seller or buyer of BookExchange, a person must register with BookExchange. The person must provide a current physical address, telephone number and e-mail address. The system maintains an account for this person. Access to the system is through a secure, authenticated portal.

A seller can list books on the system through a special Internet form. The form asks for all the pertinent information about each book: its category, its general condition, and the asking price. The system maintains a database of all books in the system so books can be searched via a search engine. The search engine allows searches by title, author, category, and keyword.

People who want to buy books come to the website and search for the books they want. They can make an order of multiple books from one buyer. They must open an account with a credit card to pay for the books. The system maintains all this information on secure servers.

After a book order is made by a buyer, BookExchange marks the books as sold and creates an order which it maintains throughout the shipment process. Then it notifies the seller of the order as well as the payment information, and the seller need to confirm this notification. Within 3 days, the seller should ship the books via the postal service. Once the shipment is made, the seller updates this to BookExchange. Then BookExchange maintains the order in a shipped status and sends an email to notify the buyer. The system also allows the buyer to track the order status any time after the order is made.
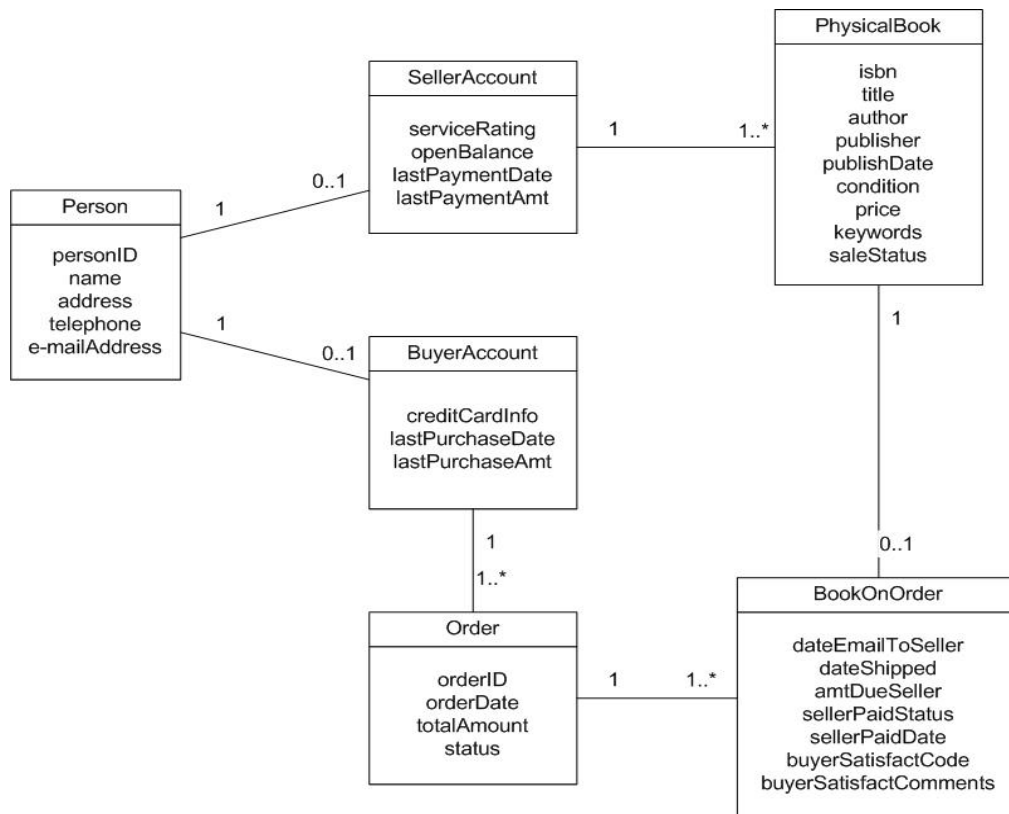
If the shipment doesn't arrive for some reason, buyers can notify BookExchange. If a shipped book isn't in the same condition as advertised, buyers can request for compensation.

At the end of each month, a check is mailed to each seller for the book orders that have remained in a shipped status for 30 days.

In addition, buyers can enter a service code for a seller. The service code is an indication of how well the seller is servicing book purchases. Some sellers are very active and use BookExchange as a major outlet for selling books. Thus, a service code is an important indicator to potential buyers.

If a seller or a buyer no longer needs services of BookExchange, they can close their accounts.

A (partial) Domain Model Class Diagram (DMCD) for this system is defined:

Complete the following questions:

(1) Identify at least four use cases for the **buyer** of BookExchange and perform a CRUD (Create-Read-Update-Delete) analysis table. You can use a text editor (e.g., Microsoft Word or LibreOffice) to present the table. (3 marks)

(2) Based on the above narrative and DMCD, develop a Design Class Diagram for the use case "Create a new sale" in UMLet (4 marks).

- Navigation visibility and method signatures must be included in the diagram.
- Method names must be indicative.
- Attributions are marked private and methods are marked public.
- A boundary/view class and a controller class must be included.

Deliverables. For each question above, export your solution to each question as a PDF document and name it as "<your_name>_<student_no>_ <question_no>.pdf". Submit the PDFs to the correct submission dropbox on Moodle before the deadline.

Note. Deadline is specified in the submission dropbox. This is an individual task. Do not outsource your solution to others.